PROPERTY PLANNING COMMON ELEMENTS

COMPONENTS OF MASTER PLANS

HABITATS AND THEIR MANAGEMENT

Mowing/Brushing and Haying

Description

Mowing/brushing and haying are mechanical methods of manipulating woody and herbaceous plant structure and composition to achieve resource management objectives. Mowing usually is used in reference to herbaceous vegetation and brushing to woody vegetation, although "mowing" can also refer to woody vegetation depending on the equipment used. Haying is a type of mowing that involves the intentional removal or harvest of herbaceous plant material (grasses, sedges, legumes), primarily for livestock forage or biofuel. These practices typically are accomplished with machinery (e.g., riding mowers or tractors with mowing attachments) but can also include hand-cutting of woody stems (shrubs and trees).

On DNR lands, mowing/brushing and haying are used to control or eliminate woody and/or undesirable vegetation, reduce vegetation height and litter layer, alter species composition, and reinvigorate desirable species in grasslands, open wetlands, savannas, barrens, and both upland and lowland shrub habitats. Examples include: controlling non-native invasive (e.g., buckthorn, honeysuckle, reed canary grass, etc.) or weedy/aggressive native plants (e.g., prickly ash, box elder, Canada goldenrod, etc.) in a variety of habitats; creating or maintaining shorter/sparser grassland structure for species that require this habitat (e.g., nesting grasshopper sparrows, lekking prairie-chickens, etc.); suppressing native warm-season grasses in a prairie restoration to increase abundance and diversity of native forbs; shearing alder to create favorable woodcock habitat; and haying native prairie plantings or remnants to obtain seed for a restoration.

Haying on DNR lands can occur in lowland or upland situations. In open wetlands, "marsh haying" for livestock forage or biofuels can be a means of controlling the aggressive, non-native invasive reed canary grass, narrow-leaved and hybrid cat-tails, and common reed (*Phragmites*). Repeated annual haying in areas where equipment use is not limited by wet conditions can be effective at reverting reed canary grass stands to native sedges and forbs (this treatment can also mimic the effects of a drawdown by creating temporary shallow feeding areas for waterfowl and shorebirds). Marsh hay is offered to local farmers for a modest payment. Universities and biofuel companies are also increasingly interested in converting harvested cat-tails and *Phragmites* into biofuels. Similarly, hay harvest in upland grasslands can be used for a variety of objectives (e.g., creating shorter grassland structure; maintaining access to hunter walking trails; reducing invasive species; preparing an area for future management such as prescribed burning, etc.). Haying is implemented through contracts, similar to other farming agreements. The actual harvesting can be done by the property manager or the contractee. Emergency haying may also occur on DNR-owned grass fields if the Governor declares a drought emergency. Emergency haying will follow the procedure outlined in the DNR Farming Agreements Program Guidance.

As with other management techniques that mimic natural disturbance regimes, the timing, intensity, and method of mowing/brushing and haying all are important factors in achieving management objectives and avoiding or minimizing potential negative impacts. Mowing or hay harvest in grasslands or wetlands managed for wildlife conservation should not occur before July 15 to avoid disturbance to brooding and nesting birds and young wildlife.

Considerations

- Mowing during the first few (~3) years after a prairie planting can be critical to good seedling establishment. In many cases, there is not enough plant biomass to carry a prescribed burn during these first years.
- Mowing native warm-season grasses in mid-summer can help suppress them to encourage some native forbs. Other native forbs benefit most from mowing in the dormant season (early spring or late fall).
- The last mowing of the year in grasslands should be early enough to promote some fall regrowth, which will provide residual vegetation cover the following spring. This typically will be early September for cool-season grasses and early August for warm-season grasses.
- Many species of deciduous trees and shrubs will re-sprout from the stump when cut (conifer species will not re-sprout). Cutting when food reserves stored in the roots are lowest (after fall leaf expansion in late spring) will reduce the degree of re-sprouting. Cutting in late summer may also be effective, as sprouts may not develop enough in the fall to survive the winter. Stems should be cut at ground level if possible to minimize stored energy available for re-sprouting.
- Too many consecutive years of haying (~5) can decrease nutrient availability, reducing grassland vigor, so this practice should be used judiciously where the objective is to maintain grasslands.